

EXHIBIT B

Part 5 of 6

Occupant Protection Systems

Ford Motor Company cautions subsequent stage manufacturers to note the definition of "Designated Seating Positions" in the Definitions section of this document. If a position can reasonably be used by a 5th percentile adult female for seating and the overall seat configuration and vehicle design make it likely that the position will be used by an occupant while the vehicle is in motion, then the position must be considered to be a "Designated Seating Position" for determination of compliance to U.S. and Canadian Motor Vehicle Safety Standards. Seat and seat belt systems may take many forms; this list of recommendations cannot cover all possibilities.

Seat Systems

WARNING: Ford Motor Company safety belts are designed to work with the seats originally developed for the vehicle. If a modifier uses different seats with Ford Motor Company seat belts, that modifier must ensure the safety belts and replacement seats meet all FMVSS requirements and will perform safely in the field. Failure to do so could result in serious injury in the event of a collision.

Any additional seats and seat anchorages installed by subsequent stage manufacturers must meet F/CMVSS 207 requirements and specifications.

The following recommendations should be heeded to ensure proper function of the vehicle seating systems:

- Do not modify or alter Ford Motor Company furnished seating or occupant restraint system. When utilizing the Ford Motor Company driver's seat delete package, care must be taken to insure proper function of the seat adjustment latching mechanism, electrical wiring and seat belt buckle pre-tensioner.
- If the seat or seat belt components are temporarily removed for any reason, they must be re-installed IN THE SAME VEHICLE in accordance with the instructions and specifications found in the applicable Ford Shop Manual.
- Seating systems that include the attachment of lap belt or shoulder belt assemblies should also consider

the requirements of F/CMVSS 210 as part of the seating system.

- Seating system components should be free of sharp edges to prevent damage to seat belt systems when the belts could potentially contact the seating system components.
- Seats should be mounted with appropriate fasteners in the mounting holes provided, since these holes are located to utilize floor pan structural reinforcements.
- If additional holes are required in the floor for any reason, their locations should be carefully selected so that the structural integrity of the floor pan will not be compromised and damage to other components located below the floor will be prevented.
- Seating systems should be designed to be compatible with the seat belt systems, so as to permit proper adjustment, allow for occupant movement and provide convenient accessibility of the restraint system buckle release.
- Seats not designated for occupancy while the vehicle is in motion must be conspicuously labeled as such.
- Any additional seats, flip/folding seats or otherwise modified seats must not interfere with the design performance of installed side curtain or seat side airbags.
- If seats are removed during the upfit process, care must be taken to:
 - Not damage wiring/connectors when unclipping/removing from seat frame.
 - Avoid debris from entering the seat belt buckle system.
 - Avoid damage of wiring/sensors located under the seat frame (including properly routing and clipping as received to avoid pinched wires).
 - Cover and protect any unconnected connectors (located on seat pedestals).
 - Carefully reconnect all electrical connectors, ensuring that they are fully seated.
 - Perform any testing procedures recommended in the service manual.

Lap and Shoulder Belt Systems

WARNING: The seat belt buckle pre-tensioner, air bags and electronic sensor module are barcoded with a unique serial number which is matched to the vehicle VIN. To maintain the occupant protection system performance, the completed vehicle must contain the same seat belt buckle pre-tensioner, air bags and electronic sensor module that were installed by Ford Motor Company. Failure to do so could result in serious injury in the event of a collision.

The following recommendations should be heeded to ensure proper function of the Lap and Shoulder Belt System:

- The front seats are equipped with a pyrotechnic buckle pre-tensioner. The buckle pre-tensioner reduces slack in the lap and shoulder safety belt by pulling the buckle downward. The buckle pre-tensioners and air bags operate on the same sensors and will function simultaneously.
- Additional lap and shoulder belt assemblies, including retractors and hardware, must comply with the requirements of F/CMVSS 208 and 209.3.
- Additional lap and shoulder belt system anchorages must comply with the requirements of F/CMVSS 210.
- Lap and shoulder belt systems that are attached to the seat frame or base may affect compliance of the seating system with the requirements of F/CMVSS 207.
- Ford Motor Company lap and shoulder belts, retractors and attaching hardware should not be altered or modified in any way. The re-installation of these components should follow the instructions and specifications in the appropriate Ford Shop Manual.
- Lap and shoulder belt assemblies should be compatible with the seat systems and anchorages so that lap belts will be properly positioned about the occupant's pelvis to provide proper adjustment and fit. The buckle and buckle release must be properly located with respect to the occupant and must comply with the requirements of F/CMVSS 208.
- Upfitter processes should be reviewed to determine potential for contaminants to enter the seat belt retractors, buckle ends, or electrical connectors.

Temporary protective covers or other means (tape, plastic etc.) should be used to minimize potential for entry of contaminants.

- If any of the B-Pillar trim panels or cutaway retractor covers are removed to perform upfitter modifications, the upfitter must cover the retractor with (clean cover plate, tape, plastic etc.) to ensure contaminants do not enter into the retractor housing.
- If drilling or cutting is done anywhere inside the vehicle, especially near the restraint system (even if not removed), due care must be used to cover/protect the restraint system (including the seatbelt webbing) to avoid damage or entry of contaminants (including covering all exposed trim holes on the B-pillars with tape).
- When seat belt assemblies (retractor, D-Ring and webbing) are repositioned or removed from the vehicle they should be positioned or stored in a clean environment and covered, with the webbing flat as to not induce wrinkling or creasing.
- After upfit, no hard contact should exist between any added component (i.e. bulk head partition, racks, second unit bodies or components) and any D-Ring, trim panel covering a retractor, or seat belt webbing. Hard contact can potentially damage retractor sensor parts and/or cause binding of the retractor affecting ability of the webbing to extract/retract.
- Seat belt warning system activation/deactivation, where applicable, should be provided by the lap and shoulder belt assembly.
- If seat belt retractors (and/ or D-Rings) are removed during the upfit process, or if any drilling/cutting is done inside the unit. Upfitters are requested to pull out and cycle the webbing 8-10 times to insure proper function, and verify that any added upfit components are not causing a system restriction.

Occupant Protection Zone and Overhead Console

For vehicles completed with an Unloaded Vehicle Weight (UVW) greater than 2495 kg [5500 lb.], Ford Motor Company strongly recommends following the practices in the compliance representations for F/CMVSS 208 regarding overhead console specifications that apply to vehicles with a GVWR of 3856 kg [8500 lb.] or less and completed units have an Unloaded Vehicle Weight of 2495 kg [5500 lb.] or less.

Air Bag Supplemental Restraints System (SRS)

Ford Motor Company urges careful consideration of the recommendations that follow.

Detailed system and service information can be found in the Ford Service Manual for the appropriate vehicle line and model year. Ford Motor Company urges the subsequent stage manufacturers to become familiar with this system prior to modifying vehicles that are so equipped.

Depowering the SRS system: If electrical work is performed near the steering column, instrument panel or air bag system, the air bag system must be depowered to avoid unwanted inflation. To do this, follow the procedure described in the Ford Service Manual.

WARNING: To avoid accidental deployment and possible personal injury, the backup power supply must be depleted before repairing or replacing any air bag supplemental restraint system (SRS) components. To deplete the backup power supply energy, disconnect the battery ground cable and wait one minute. Be sure to disconnect auxiliary batteries and power supplies (if equipped).

WARNING: Carry a live air bag module with the air bag and trim cover pointed away from your body. This will reduce the risk of injury in the event of an accidental deployment.

WARNING: Do not set a live air bag module down with the trim cover face down.

CAUTION: Do not remove the steering column, steering wheel, and air bag module as an assembly from the vehicle unless:

- The column is locked to prevent rotation, or
- The lower end of steering shaft is secured (e.g., by wire) in such a way that the steering wheel cannot be rotated.

After repowering an airbag, it is important to prove out the system to make sure it is functioning properly. See the appropriate Ford Service Manual for the correct prove out procedure.

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Center of Gravity Location

The location of the vehicle center of gravity is a very important characteristic for determining whether the completed vehicle meets various FMVSS regulations (105, 126, 135, 301 etc.) and desired attribute targets (steering feel, vehicle stability, handling etc.).

The reference features used by Ford for all center of gravity measurements are as follows: the ground plane for vertical CG, center of the front wheels for horizontal CG, and geometric center line of the vehicle for all transverse CG.

Definitions

The following expressions are defined for use with regard to vehicle Center of Gravity. See Figure 39 for graphical representation of many of these terms.

CG_h = Horizontal distance from the center of the front wheels to the center of gravity of the completed vehicle

CG_{hb} = Horizontal distance from the center of the front wheels to the center of gravity of the Second Unit Body (SUB) and permanently attached equipment

CG_{hc} = Horizontal distance from the center of the front wheels to the center of gravity of the chassis, including cab

CG_{hl} = Horizontal distance from the center of the front wheels to the center of gravity of the cargo. CG_{hl} may be estimated as the distance from the front wheel to the horizontal midpoint of the cargo area

CG_{hp} = Horizontal distance from the center of the front wheels to the center of gravity of the passenger load (P)

CG_t = Transverse distance from the geometric center line of the vehicle to the center of gravity of the completed vehicle (not shown in figure)

CG_v = Vertical distance from the ground to the center of gravity of the completed vehicle

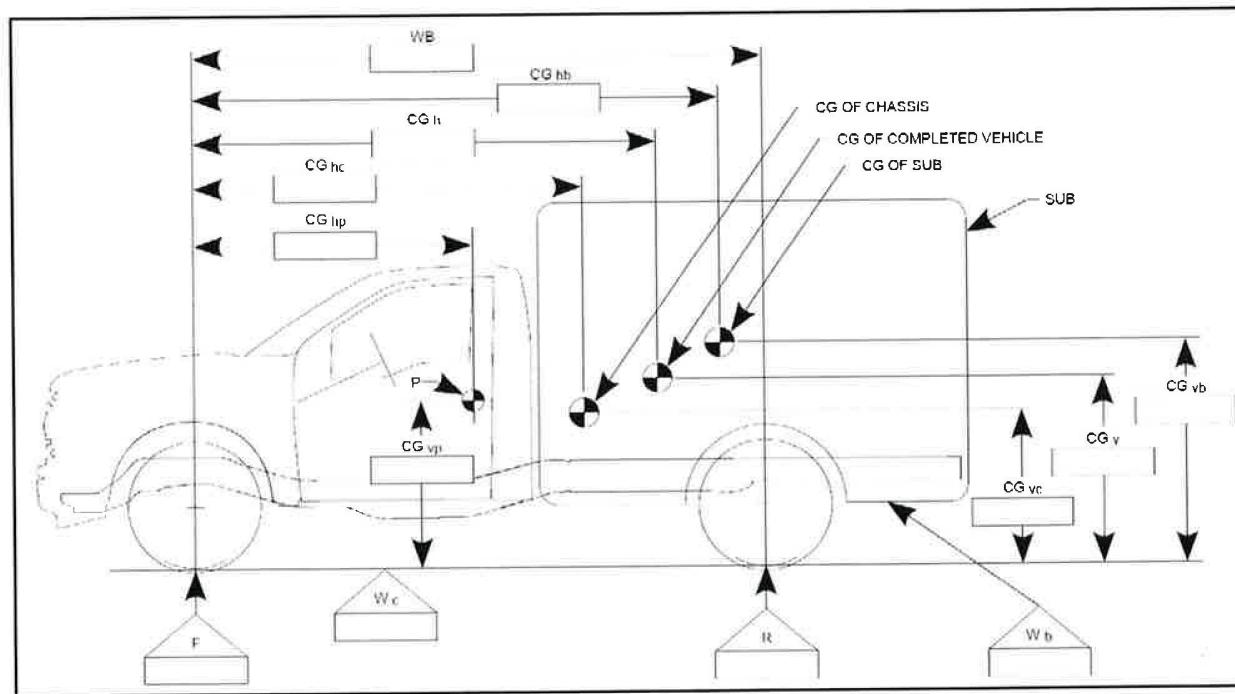


Figure 39 – Center of Gravity Definitions

CG_{vb} = Vertical distance from the ground to the center of gravity of the Second Unit Body (SUB) and permanently attached equipment

CG_{vc} = Vertical distance from the ground to the center of gravity of the chassis, including cab

CG_{vl} = Vertical distance from the ground to the center of gravity of the cargo

CG_{vp} = Vertical distance from the ground to the center of gravity of the passenger load (P)

F = Front axle weight. The sum of left front (LF) and right front (RF) corner weights

LF = Load on the left front wheel (corner weight)

LR = Load on the left rear wheel(s) (corner weight)

P = Passenger load. Defined in FMVSS 105 as 400 lb for vehicles with GVWR 10,000 lb and under, and 500 lb for vehicles with GVWR over 10,000 lb

R = Rear axle weight. The sum of left rear (LR) and right rear (RR) corner weights

RF = Load on the right front wheel (corner weight)

RR = Load on the right rear wheel(s) (corner weight)

T_f = Track width of front axle (not shown in figure)

T_r = Track width of rear axle (measured to center of wheel pair for DRW vehicles) (not shown in figure)

WB = Vehicle wheelbase length

W_b = Weight of the Second Unit Body (SUB) and permanently attached equipment

W_c = Weight of the chassis, including cab (fuel tanks full and including options and accessories)

W_l = Weight of cargo. Maximum cargo capacity:
 $W_{l(max)} = GVWR - (W_c + W_b + P)$

Calculating Center of Gravity Location

Reference information

Reference information that may be helpful for center of gravity calculations is available on the Ford Body Builders Advisory Service (BBAS) website <https://fordbbas.com>, under "Publications". The Body Builder Layout Books contain chassis base curb weights (front and rear), GAWRs, chassis CG_v, Passenger CG location, and dimensional information such as wheelbase and track width. Accessory weights are listed in the Ford eSourceBook, which can be found under "Vehicle Specifications". If you do not have access to this information online, please contact your Ford Dealer.

Aggregation of Components

The location of the center of gravity of an assembly can be calculated using a weighted average equation. Figure 40 is an example of a weighted average equation used to calculate the center of gravity of a completed vehicle from its four main components: Chassis, Passenger, SUB and Payload. This method can also be used to calculate the CG of a SUB from its components, or for any other assemblage of parts. This equation can be applied separately to any of the three vehicle directions (vertical, horizontal and transverse). Make sure the data units and measurement reference features are consistent throughout the equation (e.g. all lengths are in inches and measured from the ground, all weights are in pounds, etc.)

There are also various software tools that can be used to calculate the center of gravity location of a completed vehicle. For instance, the National Truck Equipment Association (NTEA) has a useful web-based tool that is available to its members. It can be accessed at:

www.ntea.com/weightcalculator

Note: Ford Motor Company is not responsible for the accuracy of results obtained with third party calculators.

$$CCCC = \frac{(CCCC_{bb} * WW_{bb}) + (CCCC_{cc} * WW_{cc}) + (CCCC_{il} * WW_{il}) + (CCCC_{pp} * PP)}{WW_{bb} + WW_{cc} + WW_{il} + PP}$$

Figure 40 – Weighted Average Equation Example

$$CCCC_h = \frac{LL * WWW}{LL + LL}$$

Figure 41 – CG_h Calculations from Weight Data

Using Weight Measurements

It is possible to calculate the CG location for a vehicle in any state of completion (chassis as provided, up to a completed vehicle loaded to GVWR) by taking weight measurements, or in some cases, using provided weight information. This may be beneficial in many instances, for example, to confirm a calculated value (particularly if the value is close to a required limit), or where it is not possible or practical to calculate the CG location. The weight measurements required vary in complexity based on which vehicle direction (vertical, horizontal or transverse) is of interest.

For horizontal center of gravity (CG_h or CG_{hc}), the front and rear axle weights are required. Figure 41 shows how to calculate the vehicle CG_h from the front and rear axle weights and wheelbase length. Front and rear axle weights can be calculated from the four corner weights if that information is available. This method is particularly helpful in determining horizontal CG of a Ford chassis (CG_{hc}) from front and rear curb weights as provided in the BBLBs.

For transverse center of gravity (CG_t), the four corner weights and front and rear track widths (front and rear track widths are often different, especially for DRW vehicles) can be used in the equation in Figure 42 for Transverse CG to determine the resultant value.

The methods for determining vertical center of gravity are significantly more complex than for the other directions. For critical applications requiring the most accurate results, some test labs have specialized "Vehicle Inertia Measurement Facility" (VIMF) equipment that may be

$$CCCC_{tt} = \frac{LLLL * TT_{ff} + LLLL * TT_{rr}}{LLLL + LLLL + LLLL + LLLL}$$

Figure 42 – CG_t Calculations from Weight Data

used. A more common method utilizing widely available equipment (scales and a vehicle lift) can be performed by a certified test facility, or at a minimum, by a properly trained and qualified technician. If interested in performing a CG_v measurement, the test method can be found in the Transit Body and Equipment Mounting Manual (BEMM) in section 1.12.3 "Center of Gravity Height Test Procedure". Navigate to the Ford Body Builders Advisory Service (BBAS) website <https://fordbbas.com>, go to the "Publications" tab and expand the "Body Builder Layout Book" section to find the Transit BEMM.

**Change Control**

Rev 2 (Jan 6, 2020):

- Added section on Center of Gravity
- Added section on Change Control
- Added Title page
- Modified section on Upfitter Interface Module to improve clarity, revise formatting and add figure numbers
- Renumbered Figures following the UIM section to accommodate added figure number labels in UIM section
- Added information to Frame section regarding adding holes near reinforcements or on crossmembers
- Minor editorial changes and corrections

Rev 1 (Oct 21, 2019):

- Added section on Upfitter Interface Module



Q-344

SVE BULLETIN

SPECIAL VEHICLE ENGINEERING – BODY BUILDERS ADVISORY SERVICE

E-Mail via Website: www.FordBBAS.com (click "Contact Us")

Toll-free: (877) 840-4338

QVM BULLETIN: Q-344

DATE: 30 / November / 2021

ACCESSING UIM DOCUMENTATION AND PROJECT EDITOR SOFTWARE

REVISION	UPDATE	REVISION DATE
Q-344	Initial release	30/November/2021

MODEL(S) AFFECTED:

SUPER DUTY, TRANSIT, and E-SERIES - All model year vehicles that have the UIM as an option

ISSUE / DESCRIPTION:

This bulletin is meant to provide guidance to Non-Fleet Ford Commercial Vehicle Customers (Upfitter or End-User) without a valid FIN code on how to obtain Upfitter Interface Module (UIM) software tool. The UIM software tool will be comprised of Project Editor, User's Manual and Instructions - this will provide the Non-Fleet Ford Commercial Vehicle Customer the necessary UIM application and/or configuring functionality needed.

NON-FLEET CUSTOMER DOWNLOAD INSTRUCTIONS:

The UIM is configured using the Project Editor software. A copy of the Project Editor (with supporting files) can be obtained from the selling Ford Dealer. The Non-Fleet Ford Commercial Vehicle Customer will be required to provide a method of software storage/transfer by either providing a suitable thumb-drive or a large file transfer site (i.e., File Transfer Protocol, SharePoint, Cloud File Share Site, etc.), this will allow the Ford Dealer to download the required UIM software tool.

NOTE TO DEALERS:

Attention: Non-Fleet Ford Commercial Vehicle Customers without a valid FIN code do not have direct access to the UIM software tool that is located on the www.fleet.ford.com website. If a Non-Fleet Commercial Vehicle Customer requires UIM software, the selling Ford Dealer should provide the UIM software tool by following this process:

1. Log into www.fleet.ford.com site with the required credentials
2. Search for Upfitter Interface Module
3. Go to the UIM access page and select the TERMS OF AGREEMENT. Accept and print a copy of TERMS OF AGREE (this action will allow access to the required UIM software downloadable files on the site)
4. Have the Commercial Vehicle Customer sign and date the printed copy of TERMS OF AGREEMENT, and the Ford Dealer is to retain the signed record copy
5. Download UIM Software (Note: UIM software is large file size and may require some time to download.) The Ford Dealer is to then provide the UIM Software files to Commercial Vehicle Customer via the storage method described above.

Refer to the Body Builder Layout Book for additional guidelines and recommendations. If you have any questions, please contact the [Ford Body Builders Advisory Service](#) as shown in the header of this bulletin.

EXHIBIT**310**

Q-251R3

SVE BULLETIN

SPECIAL VEHICLE ENGINEERING – BODY BUILDERS ADVISORY SERVICE

E-Mail via Website: www.FordBBAS.com (click "Contact Us")

Toll-free: (877) 840-4338

QVM BULLETIN: Q-251R3

DATE: 01/ MAR / 2022

FORD UPFITTER INTERFACE MODULE (UIM)

REVISION	UPDATE	REVISION DATE
Q-251R3	REVISED UIM DOCUMENTATION INSTRUCTIONS (SUPERCEDED BY BULLETIN Q-344)	01MAR2022
Q-251R2	ADDED MODEL YEAR CUTOFF	5JUN2020
Q-251R1	REMOVED UIM EMAIL INFORMATION.	12AUG2016
Q-251	INITIAL RELEASE	08AUG2016

MODEL(S) AFFECTED:

All 2017 through 2022 models available with the option Gen 1 Upfitter Interface Module

NOTE: THIS BULLETIN IS SUPERCEDED BY BULLETIN Q-344. REFERENCE BULLETIN Q-344 FOR THE LATEST GUIDANCE.

ISSUE / DESCRIPTION:

Purpose:

To describe the optional Upfitter Interface Module (UIM), UIM hardware, UIM software, and user's guides.

Upfitter Interface Module overview:

The UPFITTER INTERFACE MODULE (UIM) is an electronic control module that provides output signals for aftermarket equipment (such as lift buckets, cranes, motors, salt spreaders, snowplows, etc.) via customer programmable logic based on switch inputs and vehicle CAN bus messages. The operation of such equipment is limited to the load parameters of the UIM. The UIM does not come pre-programmed for use. It must be configured by the Upfitter for aftermarket equipment.

The UIM is configured using the UIM Project Editor. The user must obtain the UIM Project Editor installation package by requesting the files from a Ford dealer (see SVE bulletin Q-344) [Microsoft Word - Q-344 Accessing UIM Documentation and Project editor software - Copy \(marketingassociates.com\)](#) (The UIM Project Editor allows the user to program the application logic for each UIM output based on UIM inputs and CAN signals. A standard Type B Universal Serial Bus (USB) 2.0 cable is required (not included) to connect the user's PC to the UIM, to download the application logic. The upfitter created application may be loaded to UIM when it is mounted in vehicle, or the UIM can be removed and software bench loaded.

In order to successfully create and implement an Upfitter application, these other documents and material may be required:

- The UIM (pre-installed in the vehicle when ordered or may be purchased separately.) Replacement UIM's are available through the dealership.

-The UIM Read Me first

(<https://www.lom.ford.com/launchomatic/launch/view.jsp?chronicleId=0900cad982b42889&docbase=edmsna1>)

-UIM project examples file

(<https://www.lom.ford.com/launchomatic/launch/view.jsp?chronicleId=0900cad982b42b3a&docbase=edmsna1>)

- UIM Project Editor User Manual

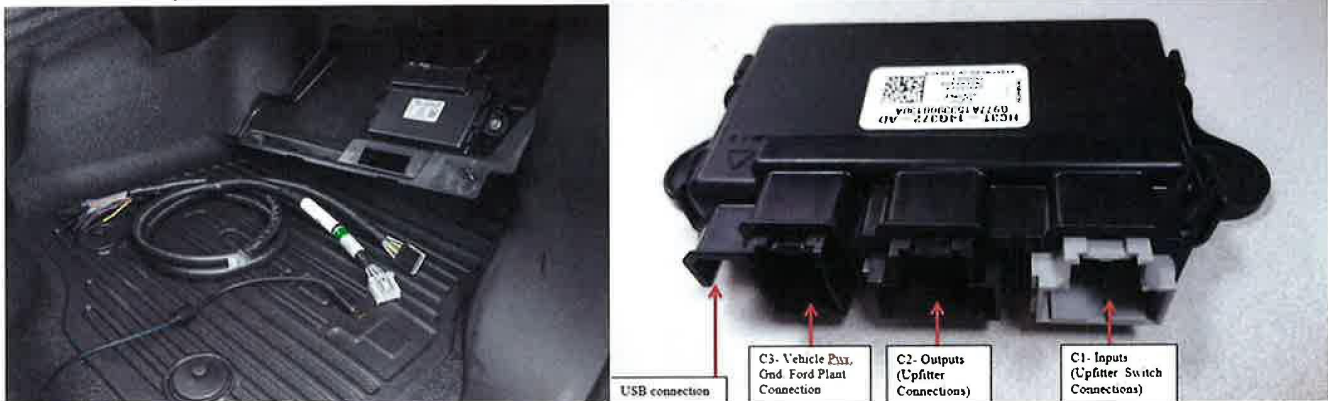
(<https://www.lom.ford.com/launchomatic/launch/view.jsp?chronicleId=0900cad982b42887&docbase=edmsna1>)

- Windows based UIM Project Editor software

(see [Downloading Software](#)) (<http://www.fleet.ford.com/login/>)

- The UIM 16-way harnesses 9 (two blunt cut 3' harnesses with connectors). Replacement harnesses are available through the dealership.

- A standard Type B Universal Serial Bus (USB) 2.0 cable (not included- must be provided by the upfitter)



Left: UIM as mounted in the 2017MY Super Duty, and interface cables (included) and USB cable (Not included)

Right: UIM connectors

Downloading Software from the Ford Fleet website:

The Windows based UIM project editor software is available through the Ford Fleet website

(<http://www.fleet.ford.com/login/>). Existing Ford Fleet website users may use their current login. New users should follow the instructions listed on "creating an account" via the link provided. If you have questions or need further assistance with the Ford Fleet Website, contact the Ford Fleet Customer Information Center at:

1-800-34-FLEET (1-800-343-5338).

Monday-Friday 8:30 AM-5 PM EST

Or

Contact Ford Fleet via [email](mailto:customer-information-center@fleet.ford.com) (<http://www.fleet.ford.com/contact-us/customer-information-center/email-us/>)

Note: Ford Motor Company is not responsible for debugging or verifying the function of the customer created UIM program files. It is the responsibility of the upfitter to ensure proper function of the software created to complete their upfit.

UIM signals:

The UIM receives 28 high speed CAN "read only" signals from various vehicle systems, providing upfitter access for aftermarket equipment needs. In addition, the upfitter may provide up to 9 additional inputs. These messages and inputs may be selected by the upfitter in the Project Editor to program the UIM outputs for aftermarket equipment. Note that the UIM has no interaction with vehicle feature functions (with the exception of horn chirp). It is strictly designed to provide outputs for aftermarket equipment.

The UIM provides the following:

- 9 configurable inputs (active low or active high), (blunt cut pigtail connector*)
- 7 Low side driver output pins (blunt cut pigtail connector*)
- 8 High side driver output pins (blunt cut pigtail connector*)
- 25-30 HSCAN signals (descriptive names in the Project Editor)
- *Pigtails with 3 foot jumpers are provided for I/O's to connect to aftermarket devices.

Note: The UIM provides output signals only, and not intended to directly power any aftermarket device. Customer must use external relays to drive any equipment.

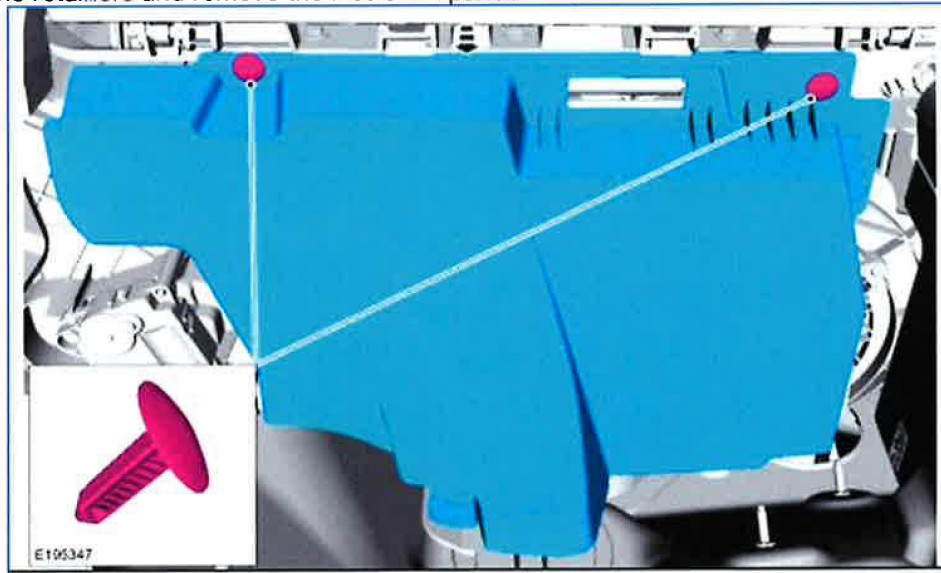
The following are some of the high-speed CAN messages available in to the UIM. See the UIM Project Editor's manual for more information.

Message	Message
Engine Coolant Temp	Rear Left Door Status
Engine Status	Rear Right Door Status
Outside Air Temp	Driver Door Status
A/C Compressor Clutch Status	Hood Status
Cruise Control Mode Status	Tire Pressure Monitoring System Status
Vehicle Speed	Air Conditioning (A/C) Request
Engine Speed (RPM)	Driver Seat Buckle Status
Transmission Oil Temp	Passenger Seat Buckle Status
Automatic Transmission Gear Status	Restraints Indicator Lamp (RIL) Status
Door Lock Status	Crash Event Severity
Ignition Status	Oil Pressure Lamp Status
Crash Event Status	Malfunction Indicator Lamp (MIL) Status
Passenger Door Status	Vehicle Battery Voltage
Odometer Reading	Fuel Level

2017 MY Super Duty UIM location:

The UIM will be available as an orderable option (order code 18A) on the 2017 MY Super Duty. The module is located in the interior of the vehicle on the passenger side behind and below the Lower the glove compartment. To access the UIM:

1. Release the retainers and remove the insulation panel.





SVE BULLETIN

SPECIAL VEHICLE ENGINEERING – BODY BUILDERS ADVISORY SERVICE

E-Mail via Website: www.FordBBAS.com (click "Contact Us")

Toll-free: (877) 840-4338

QVM BULLETIN: Q-251R2

DATE: 05/ JUN / 2020

Ford Upfitter Interface Module (UIM)

REVISION	UPDATE	REVISION DATE
Q-251R2	ADDED MODEL YEAR CUTOFF	5JUN2020
Q-251R1	REMOVED UIM EMAIL INFORMATION.	12AUG2016
Q-251	INITIAL RELEASE	08AUG2016

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The UIM is configured using the UIM Project Editor, which is compatible with Windows 7 and Windows 8 Operating Systems. The user must obtain the UIM Project Editor installation package by downloading it from the Ford Fleet website (<http://www.fleet.ford.com/login/>). The UIM Project Editor allows the user to program the application logic for each UIM output based on UIM inputs and CAN signals. A standard Type B Universal Serial Bus (USB) 2.0 cable is required (not included) to connect the user's PC to the UIM, to download the application logic. The upfitter created application may be loaded to UIM when it is mounted in vehicle, or the UIM can be removed and software bench loaded.

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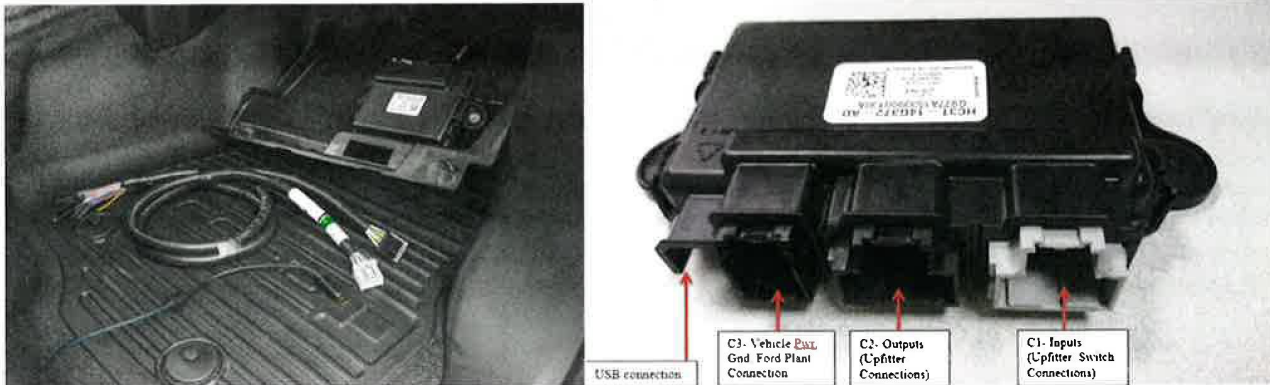
- UIM Owner's Manual

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- 8 High side driver output pins (blunt cut pigtail connector*)
- 25-30 HSCAN signals (descriptive names in the Project Editor)
- *Pigtails with 3 foot jumpers are provided for I/O's to connect to aftermarket devices.

Note: The UIM provides output signals only, and not intended to directly power any aftermarket device. Customer must use external relays to drive any equipment.

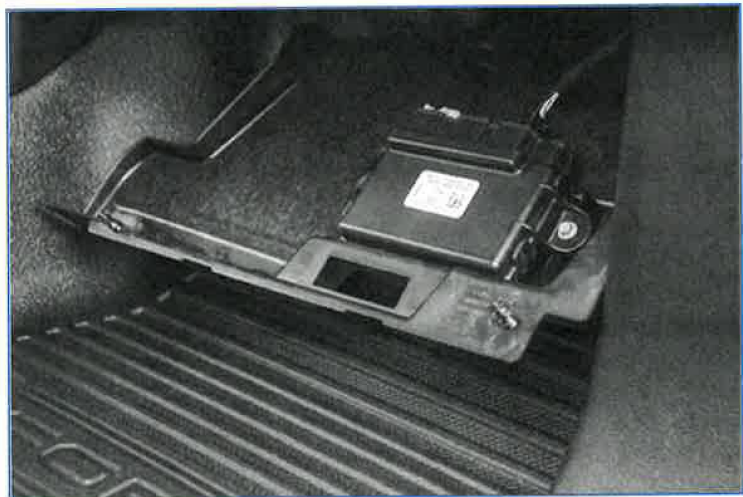
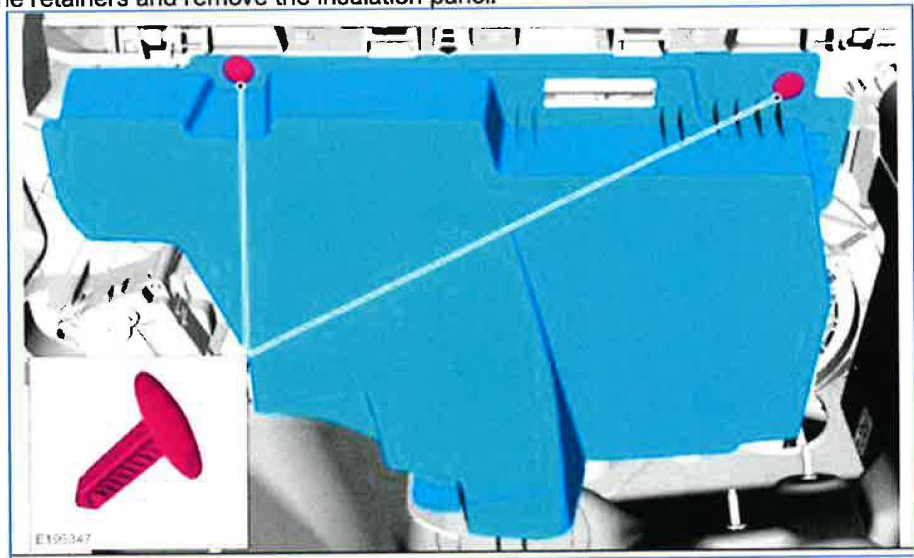
The following are some of the high-speed CAN messages available in to the UIM. See the UIM Project Editor's manual for more information.

Message	Message
Engine Coolant Temp	Rear Left Door Status
Engine Status	Rear Right Door Status
Outside Air Temp	Driver Door Status
A/C Compressor Clutch Status	Hood Status
Cruise Control Mode Status	Tire Pressure Monitoring System Status
Vehicle Speed	Air Conditioning (A/C) Request
Engine Speed (RPM)	Driver Seat Buckle Status
Transmission Oil Temp	Passenger Seat Buckle Status
Automatic Transmission Gear Status	Restraints Indicator Lamp (RIL) Status
Door Lock Status	Crash Event Severity
Ignition Status	Oil Pressure Lamp Status
Crash Event Status	Malfunction Indicator Lamp (MIL) Status
Passenger Door Status	Vehicle Battery Voltage
Odometer Reading	Fuel Level

2017 MY Super Duty UIM location:

The UIM will be available as an orderable option (order code 18A) on the 2017 MY Super Duty. The module is located in the interior of the vehicle on the passenger side behind and below the Lower the glove compartment. To access the UIM:

1. Release the retainers and remove the insulation panel.



Refer to the Body Builder Layout Book for additional guidelines and recommendations. If you have any questions, please contact the [Ford Body Builders Advisory Service](#) as shown in the header of this bulletin.

Q-251R2

SVE BULLETIN

SPECIAL VEHICLE ENGINEERING – BODY BUILDERS ADVISORY SERVICE

E-Mail via Website: www.FordBBAS.com (click "Contact Us")

Toll-free: (877) 840-4338

QVM BULLETIN: Q-251R2

DATE: 05/ JUN / 2020

Ford Upfitter Interface Module (UIM)

REVISION	UPDATE	REVISION DATE
Q-251R2	ADDED MODEL YEAR CUTOFF	5JUN2020
Q-251R1	REMOVED UIM EMAIL INFORMATION.	12AUG2016
Q-251	INITIAL RELEASE	08AUG2016

MODEL(S) AFFECTED:

All 2017 through 2019 models available with the option Gen 1 Upfitter Interface Module

ISSUE / DESCRIPTION:

Purpose:

To describe the optional Upfitter Interface Module (UIM), UIM hardware, UIM software, and user's guides.

Upfitter Interface Module overview:

The UPFITTER INTERFACE MODULE (UIM) is an electronic control module that provides output signals for aftermarket equipment (such as lift buckets, cranes, motors, salt spreaders, snow plows, etc.) via customer programmable logic based on switch inputs and vehicle CAN bus messages. The operation of such equipment is limited to the load parameters of the UIM. The UIM does not come pre-programmed for use. It must be configured by the Upfitter for aftermarket equipment.

The UIM is configured using the UIM Project Editor, which is compatible with Windows 7 and Windows 8 Operating Systems. The user must obtain the UIM Project Editor installation package by downloading it from the Ford Fleet website (<http://www.fleet.ford.com/login/>). The UIM Project Editor allows the user to program the application logic for each UIM output based on UIM inputs and CAN signals. A standard Type B Universal Serial Bus (USB) 2.0 cable is required (not included) to connect the user's PC to the UIM, to download the application logic. The upfitter created application may be loaded to UIM when it is mounted in vehicle, or the UIM can be removed and software bench loaded.

In order to successfully create and implement an Upfitter application, these other documents and material may be required:

- The UIM (pre-installed in the vehicle when ordered, or may be purchased separately.) Replacement UIM's are available through the dealership.

-The UIM Read Me first

(<https://www.lom.ford.com/launchomatic/launch/view.jsp?chronicleId=0900cad982b42889&docbase=edmsna1>)

-UIM project examples file

(<https://www.lom.ford.com/launchomatic/launch/view.jsp?chronicleId=0900cad982b42b3a&docbase=edmsna1>)

- UIM Project Editor User Manual

(<https://www.lom.ford.com/launchomatic/launch/view.jsp?chronicleId=0900cad982b42887&docbase=edmsna1>)

- UIM Owner's Manual

(<https://www.lom.ford.com/launchomatic/launch/view.jsp?chronicleId=0900cad982b42888&docbase=edmsna1>)